

REMARKS

Claims 1-3, 5, 7, 8 and 15-20 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Usami (U.S. Patent No. 6,138,062) in view of Asanuma et al. (U.S. Patent No. 5,627,754). Claims 4 and 6 have been similarly rejected over Usami in view of Asanuma et al. and further in view of Uehara (U.S. Patent No. 5,938,707), while Claims 9-14 have been similarly rejected over Usami in view of McCrary (U.S. Patent No. 6,169,954). Reconsideration of these claims is respectfully requested.

Usami discloses an automatic traveling control device. FIG. 1 shows the structure of a vehicle. The front part of the vehicle is provided with a laser radar device 10 for forward obstacle detection and side-wall (side) laser radar devices 12, 14 for detecting the distances to the side walls of the lanes. Col 3, lines 15-20. Detected obstacle data and distance to side wall data are supplied to a vehicle controlling ECU (electronic control device) 20. Col. 3, lines 25-27. The roof of the vehicle is provided with a front-view CCD camera 16 for photographing the lane ahead and the door mirror is provided with a rear-view CCD camera 18 for photographing the lane on the side and to the rear (adjacent lane). The image data obtained from these cameras is supplied to an image processor ECU 22 in the rear part of the vehicle (for example in the trunk). Col. 3, lines 35-41. Vehicle controlling ECU 20, which receives as inputs lane line data and distance to side wall data, detects the vehicle position within a lane based on the data and drives a steering actuator 24 to perform the required travel along the lane, as well as deciding whether to change lanes (or travel evasively) or stop based on obstacle data and rear and side approaching vehicle data, and controls those steering actuator 24, a throttle actuator 26, and a brake actuator 28. Col. 3, lines 53-61.

Asanuma et al. disclose a method for controlling a front and rear wheel steering vehicle. The disclosure states that the invention provides a method for controlling a front and rear wheel steering vehicle which can control the under-steer tendency of the vehicle when making a turn involving a large steering angle and ensure the stability of the vehicle in high lateral acceleration situations, as well as a method for controlling a front and rear wheel steering vehicle which can maximize the maneuverability of the vehicle without sacrificing the stability of the vehicle. The disclosure further states that it provides a method for controlling a front and rear wheel steering vehicle which allows the vehicle operator to take advantage of the maneuverability of the front

and rear wheel steering vehicle without experiencing any unnatural impression. Col. 2, lines 1-17.

McCrary discloses an intelligent public transit system using dual-mode vehicles. In some embodiments a physical coupling system is provided and adapted to allow PVs such as PV 15 to be coupled and de-coupled while traveling on PTS 11 or at any other time. The coupling apparatus consists of a mechanized engaging member 83a illustrated as retracted within the front portion of PV 15 behind a front bumper 85a. A hydraulic system 81 in this embodiment is provided and adapted to enable the extension of member 83a. In other embodiments, other means of mechanization may be provided instead of hydraulic actuation. Col. 16, lines 11-20.

With respect to amended Claim 1, a proper analysis of the obviousness/nonobviousness of the claimed invention under 35 U.S.C. §103(a) requires consideration of two factors: (1) whether the prior art would have suggested to those of ordinary skill in the art that they should carry out the claimed invention; and (2) whether the prior art would also have revealed that in so carrying out the claimed invention, those of ordinary skill would have a reasonable expectation of success. Both the suggestion and the reasonable expectation of success must be founded in the prior art, not in the applicant's disclosure. *In re Sernaker*, 217 U.S.P.Q. 1, at 5 (Fed. Cir. 1983); and *In re Vaeck*, 20 U.S.P.Q.2d 1438, 1442 (CAFC 1991).

In the present case, the rejection of Claim 1 under 35 U.S.C. §103 is in error because Usami fails to provide the requisite suggestion/motivation to provide a guided vehicle for use on a roadway having, among other things, a front steering mechanism coupled to the front wheels for pivoting the front wheels relative to the body and a rear steering mechanism coupled to the rear wheels for pivoting the rear wheels relative to the body. Nor do Asanuma et al. provide the requisite motivation to add a rear steering mechanism to a guided vehicle of the type disclosed in Usami. Similarly, Asanuma et al. fail to provide the requisite suggestion/motivation to provide a front and rear wheel steering vehicle having, among other things, a sensing unit carried by the body for sensing guidepath indicators as the body travels along the roadway and providing a signal indicative of the position of the body relative to the guidepath indicators. Instead, it appears that the Examiner is merely using impermissible hindsight reasoning to combine these references in an effort to arrive at the claimed invention.

Even if Usami and Asanuma et al. are combined in the manner suggested by the Examiner, neither of such references discloses a guided vehicle of the type called for in Claim 1 having, among other things, a front sensing unit carried by the front of the body in close proximity to the front wheels for sensing the guidepath indicators as the body travels along the roadway and providing a first signal indicative of the position of the front of the body relative to the guidepath indicators and a rear sensing unit carried by the rear of the body in close proximity to the rear wheels for sensing the guidepath indicators as the body travels along the roadway and providing a second signal indicative of the position of the rear of the body relative to the guidepath indicators and a controller coupled to front and rear sensing units and the front and rear steering mechanisms for receiving the first and second signals and controlling the pivoting of the front and rear wheels as a function of the first and second signals.

Claims 3-8 depend from Claim 1 and are patentable for the same reasons as Claim 1 and by reason of the additional limitations called for therein.

Amended Claim 9 is patentable by calling for a transportation system for use on a roadway having a lane and a plurality of guidepath indicators extending along the roadway for indicating the path of the lane having, among other things, a pair of wheels pivotably coupled to the rear of the trailing vehicle for steering the trailing vehicle relative to the roadway, a steering mechanism coupled to the wheels for pivoting the wheels relative to the trailing vehicle, a sensing unit carried by the rear of the trailing vehicle in the vicinity of the wheels for sensing the guidepath indicators as the lead vehicle and the trailing vehicle travel along the roadway and providing a signal indicative of the position of the rear of the trailing vehicle relative to the guidepath indicators and a controller coupled to the sensing unit and the steering mechanism for receiving the signal and controlling the pivoting of the wheels as a function of the signal so as to maintain the trailing vehicle within the confines of the lane.

Contrary to the assertion of the Examiner, there is no suggestion or disclosure in Usami to utilize the disclosure therein in a transportation system, let alone a transportation system of the type called for in amended Claim 9. Nor is there any disclosure in either Usami or McCrary of a transportation having a sensing unit carried by the rear of the trailing vehicle in the vicinity of the wheels for sensing the guidepath indicators as the lead vehicle and the trailing vehicle travel

along the roadway and providing a signal indicative of the position of the rear of the trailing vehicle relative to the guidepath indicators.

Claims 12-13 depend from Claim 9 and are patentable for the same reasons as Claim 9 and by reason of the additional limitations called for therein.

Amended Claim 15 is patentable by calling for a method for guiding a vehicle having a pair of front wheels and a pair of rear wheels along a curve of a roadway having a lane which includes, among other things, the step of providing an electronic sensing unit on the vehicle in the vicinity of the rear wheels to sense each of the guidepath indicators during travel of the vehicle along the roadway and to provide a signal indicative of the relative distance between the vehicle and each of the guidepath indicators. As discussed above, neither Usami nor Asanuma et al. disclose an electronic sensing unit on a vehicle in the vicinity of the rear wheels to sense each of the guidepath indicators during travel of the vehicle along the roadway.

Claims 16-20 depend from Claim 15 and are patentable for the same reasons as Claim 15 and by reason of the additional limitations called for therein.

New Claim 21 is different in scope than the claims of record and is patentable by calling for a transportation system for use on a roadway having a lane and a plurality of guidepath indicators extending along the roadway for indicating the path of the lane comprising a lead vehicle and a trailing vehicle adapted for travel at expressway speeds on the roadway, the lead vehicle having a front and the trailing vehicle having a rear, a coupling mechanism for coupling the trailing vehicle to the lead vehicle, a first pair of wheels pivotably coupled to the front of the lead vehicle for steering the lead vehicle relative to the roadway and a first steering mechanism coupled to the first pair of wheels for pivoting such wheels relative to the lead vehicle, a second pair of wheels pivotably coupled to the rear of the trailing vehicle for steering the trailing vehicle relative to the roadway and a second steering mechanism coupled to the second pair of wheels for pivoting such wheels relative to the trailing vehicle, a first sensing unit carried by the lead vehicle for sensing the guidepath indicators as the lead vehicle travels along the roadway and providing a first signal indicative of the position of the lead vehicle relative to the guidepath indicators and a second sensing unit carried by the trailing vehicle for sensing the guidepath indicators as the trailing vehicle travels along the roadway and providing a second signal indicative of the position of the trailing vehicle relative to the guidepath indicators and a


controller coupled to the first and second sensing units and the first and second steering mechanisms for receiving the first and second signals and controlling the pivoting of the first and second pairs of wheels as a function of the first and second signals so as to maintain the lead vehicle and the trailing vehicle within the confines of the lane.

New Claims 22-23 depend from Claim 21 and are patentable for the same reasons as Claim 21 and by reason of the additional limitations called for therein.

In view of the foregoing, it is respectfully submitted that the claims of record are allowable and that the application should be passed to issue. Should the Examiner believe that the application is not in a condition for allowance and that a telephone interview would help further prosecution of this case, the Examiner is requested to contact the undersigned attorney at the phone number below.

Respectfully submitted,

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